



DESCRIPTIONS OF NEW SOUTH AFRICAN FISHES.

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The following is a continuation of the description of new fishes procured on the South African Coast. It includes one new genus and seventeen new species, one of which may be a new genus, as follows :—

1. *Serranus knysnaensis*, n.sp. (*Serranidae*).
2. *Pterois nigripinnis*, n.sp. (*Triglidae*).
3. *Histioporus spinifer*, n.sp. (*Squamipinnes*).
4. *Lampris immaculata*, n.sp. (*Lampridae*).
5. *Cyttosoma boops*, n.g. and sp. (*Cyttidae*).
6. *Cottunculus macrocephalus*, n.sp. (*Cottidae*).
7. *Pseudorhombus natalensis*, n.sp. (*Pleuronectidae*).
8. *Pseudorhombus* (?) *andersoni*, n.sp. (*Pleuronectidae*).
9. *Platophrys dimorphus*, n.sp. (*Pleuronectidae*).
10. *Solea turbynei*, n.sp. (*Pleuronectidae*).
11. *Cynoglossus attenuatus*, n.sp. (*Pleuronectidae*).
12. *Cynoglossus brachycephalus*, n.sp. (*Pleuronectidae*).
13. *Arnoglossus macrolepis*, n.sp. (*Pleuronectidae*).
14. *Synaptura melanoptera*, n.sp. (*Pleuronectidae*).
15. *Solea fulvo-marginata*, n.sp. (*Pleuronectidae*).
16. *Synaptura ciliata*, n.sp. (*Pleuronectidae*).
17. *Chlorophthalmus punctatus*, n.sp. (*Scopelidae*).
18. *Scopelus argenteus*, n.sp. (*Scopelidae*).

Fam. SERRANIDÆ.

Serranus kynsnaensis, n.sp.

(Plate XIX.)

D. X 14. A. III 7. Sc. 83 $\frac{5}{8}$. L. 1 72.

Depth of body $3\frac{1}{4}$ times in length; length of head equals depth of body. Snout slightly longer than diameter of eye, which is about $\frac{1}{4}$ the length of the head; interorbital width $5\frac{1}{4}$ in length of head; lower jaw projecting, with strong canines on the sides; maxillary extending to nearly below centre of eye; snout naked. Preoperculum and operculum scaly; preopercula finely serrated on both the posterior and lower border; opercular spines strong, the middle, which is equidistant from the upper and lower, is largest. Gill rakers long, 11 on the lower part of the anterior arch. Dorsal originating slightly behind extremity of longest opercular spine; first and second spine shortest, the rest not very unequal in length, and not separated from the soft rays by a notch; fifth spine equal to or slightly shorter than the longest soft ray, and a little over $2\frac{1}{3}$ in length of head. Caudal is somewhat imperfect.

The single specimen from which this description is taken was forwarded by Mr. Jackson, the Resident Magistrate at Knsyna, where it was found.

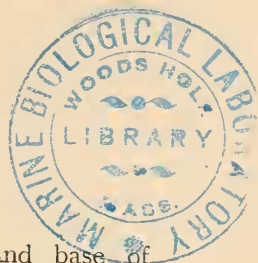
Fam. TRIGLIDÆ.

Pterois nigripinnis, n.sp.

Br. VII. D. XIII 9. P. 20. V. I 5. A. II 7. C. 12.

L. r. 35. L. tr. $\frac{5}{2}$.

Depth of body 3 times in length without caudal, $4\frac{1}{3}$ times with caudal. Length of head $2\frac{4}{5}$ in body. Diameter of eye a little less than length of snout, and contained 3 times in length of head. Interocular space $\frac{2}{3}$ diameter of eye, deeply concave. A long tentacle over orbit of eye, longer than breadth of interorbital space, with a black spot at its extremity. The wide posterior nostril is immediately in front of eye, the anterior about half way to end of snout, and provided with a long tentacle, almost as long as orbital tentacle, but without black spot. A long tentacle, about twice the diameter of the eye, hangs down from lower margin of preorbital bordering on the maxillary.



There are 35 rows of scales between temple and base of caudal; scales cover the head, including middle line of inter-orbital space, but not jaws, throat, and top of snout.

The pectorals reach nearly to the base of the caudal, the ventrals to about the 4th ray of the anal. None of the caudal rays are prolonged.

Colour (in formalin): Dorsal fin mottled with black, anal and caudal with scattered black dots, ventral and pectoral black, body brownish.

This new species seems nearest to *P. macrurus*, Alcock.

Locality: Three specimens were found $2\frac{1}{2}$ miles off the Umhlanga River mouth (Natal). Depth, 22 to 26 fathoms; bottom, fine sand. The largest of these was 85 mm. in length (including caudal).

Fam. SQUAMIPINNES.

Histiopterus spinifer, n.sp.

(Plate XXI.)

D. IV 26. A. III 10. P. 17. L. 1. 64. C. 4 + 17 + 2.

Height of body a little over $2\frac{2}{3}$ in length, the highest point being at the last spines of the dorsal. Head $1\frac{2}{3}$ in height of body; snout $2\frac{1}{2}$ in head. Diameter of eye $3\frac{3}{4}$ in length of head, nearly equal to the interorbital space, which is slightly concave. Small clusters of spines, which might rather be designated tubercles, occur (1) in the median frontal region just behind the head, (2) over the orbit, (3) above the upper angle of the opercular opening, (4) at the angle of the pre-operculum, and (5) above the maxillary. The scales of the body are small and ctenoid. On the head they are only present on the cheek and above the operculum, being absent on the frontal region, snout, operculum, and apparently the lower jaw.

The teeth are small, forming a broad band in both jaws. There are none on the vomer or palatines.

The dorsal fin is very high, its longest ray being longer than the height of the body in the proportion of 11 to 10. It is covered at its base by scales. The ventrals extend to beyond the root of the caudal, and are longer than the depth of body. The anal extends to about the posterior third of the caudal.

Colour: The body (in spirit) is an uniform dark brown, becoming almost black on the fins.

Only one specimen was procured by trawl.

Locality: Mossel Bay; depth, 30—36 fathoms; bottom, mud.

MEASUREMENTS OF SPECIMEN

Height of body	50 mm.
Length „ „ (without caudal)	72 „
„ „ head	30 „
„ „ snout	12 „
Diameter of eye	8 „
Length of ventral	45 „
„ „ pectoral	24 „
Longest ray of dorsal	55 „

Fam. LAMPRIDÆ.

Lampris immaculata, n.sp.

(Plate XXII.)

Br. 6. D. 54. A. 36. V. 14.

Depth of body a little under $\frac{1}{2}$ the length (excluding caudal), length of head $3\frac{2}{3}$, diameter of eye about $5\frac{2}{3}$ in length of head and more than $\frac{1}{2}$ the interocular space.

Pectorals rounded, $1\frac{2}{3}$ in length of head. Anal has the first rays longer than those immediately succeeding them. Other fins as in *L. luna*.

The paired and unpaired fins are of a deep red colour. Snout, lips and region anterior to the eyes of the same colour, but less marked. Edge of pre-operculum, of operculum and posterior margin of gill opening, tongue and throat, including inner surface of rather long gill rankers and branchial arches, are similarly coloured. Body of a dark steel blue colour above, lighter and greenish below, the whole, including that part of the head posterior to the eye, with a suffused rose red colour. There are no white spots on any part of the body.

The lateral line is well marked, each scale, with a single unbranched tube, being of a bright red colour. These spots are continued forward from the anterior end of the lateral line in two directions, one arching upwards and forward to the top of the head, the other forward over the eye to the end of the snout. These, about half-a-dozen in each line, were of the same deep red as the pierced scales of the lateral line, and had a simple mucous pore in the centre.

The tongue is narrow, free and smooth as Lowe describes it in his specimen, and without the asperities noted by other observers. No large scale was found before the anal, but the pits above and below the caudal peduncle were present. The pyloric caecae were very numerous.

I have hesitated to describe this form as a new species as it agrees in many particulars with the Northern form which has been found to vary considerably. In general proportion of the body and fin formula it cannot be separated from *L. luna*, but the anterior elevation of the anal fin, the entire absence of spots on the body and the presence of marked lines of mucous pores over the head, which could hardly escape the notice of other observers, seems to indicate that it belongs to a different species. The pectorals are shorter and more rounded, but this may be an age characteristic.

The anterior elevation of the anal fin is of interest from a systematic point of view, as connecting the isolated family of the Lampridae with the Scombridae.

The specimen described was found on the 2nd August, 1902, cast up on the beach at Muizenberg, in False Bay, and was quite unknown to the fishermen at that place or at the adjacent Kalk Bay. Unfortunately, when procured, it was somewhat damaged, the right jaw being torn off, the left pectoral and both eyes gone. It was, however, in a perfectly fresh state. When placed in formalin the brilliant red of the fins rapidly faded.

There is a stuffed specimen in the South African Museum, found on the shores of Table Bay in the year 1887. There are well marked large white spots painted on this fish, but that this is an error of the taxidermist copied from a figure is very probable, as a note by Mr. Trimen in the records of the Museum undoubtedly refers to this fish, viz.:—"A Lampris (red and without spots) found stranded in Table Bay, 4th April, 1887. Length 3 ft. 7 in." The elevated anterior rays of the anal are even more marked than in the specimen described. The pectorals are not, however, so rounded.

The following measurements are those of the fresh specimen from Muizenberg:—

Length of body, excluding tail	805 mm.
" " to end of middle caudal ray...	880 "
Depth "	380 "
Greatest thickness	143 "
Longest ray of dorsal	185 "
" " ventral	170 "
" " pectoral along curve	200 "
" " from tip to base	174 "
Length of head	245 "
Diameter of eye	46 " ?
Interocular space	85 "

Fam. CYTTIDÆ.

Cyttosoma, n.g.

Body compressed and elevate, head not so much compressed. Upper profile concave. Eyes very large, scales small, deciduous and replaced by spiny tubercles on head, nape of the neck (to 1st dorsal), thoracic and abdominal regions and by hard spiny scales along bases of dorsal and anal fins. Dorsals nearly separate, being joined by very low membrane, the first having seven spines and much shorter than the second. There are three anal spines. Rays of dorsal 29, anal 28, pectoral 22, and ventral 7; pectoral and ventral well separated. Minute teeth in lower jaw, none in upper jaw, vomer or palatine bones. Branchiostegals 7.

Cyttosoma boops, n.sp.

(Plate XXIII.)

Br. VII. D. VII 29. A. III 28. V. I 7. L. I 100 (approx.).

The upper jaw is very protractible and can be drawn out $1\frac{1}{2}$ times its normal distance from the eye. The greatest depth of the body is $2\frac{1}{2}$ times the diameter of the eye, and is contained a little more than $1\frac{3}{4}$ in total length which is 158 mm. (mouth closed). The length of the head is contained $2\frac{1}{2}$ times in the body. Interorbital space $1\frac{3}{4}$ diameter of the eye. The lower ridges of the mandible serrate. Opercular bones are not serrate. The superior profile of the body rises abruptly behind the eye to the origin of the dorsal and continues backwards in the form of a thin ridge with straight border to within a distance from the root of the caudal equal to about $\frac{1}{4}$ of its length. The ventral profile is somewhat similar, though not so pronounced. The ridge here begins under the vertical from the commencement of the soft dorsal. It has the same straight outline. The soft rays of the anal are somewhat longer than those of the dorsal. The inter-maxillary can be received into a horse shoe shaped space which extends backwards to over the centre of the orbit. It is in length $1\frac{1}{2}$ times the interocular width. The maxillary is of the same length.

The nostrils are placed close together in front of an anterior protuberance of the supra orbital ridge. The pseudobranchiæ are well developed and the gill rakers are stout, short and lamelliform.

There are about 100 scales on the lateral line which extends on to the caudal. The greatest height of its anterior curve is below the commencement of the first dorsal; from this point

it gradually descends till under the 15th soft ray, when it continues backward in a straight horizontal line.

The scales of the body are thin and deciduous, circular and with concentric striæ only. On the middle region from the commencement of the dorsal to about the anterior margin of the orbits they assume the form of rough tubercles. The same occurs in the ventral region between the beginning of the anal and the isthmus. One or two enlarged scales occur on the body under the dorsal spine.

There are about 40 bony scales provided with low spines along the base of the dorsal and about the same number along the base of the anal. Two short bony ridges extend backwards from the posterior region of the eye.

Locality: The single specimen procured was obtained by trawl, Vasco de Gama Peak (near Cape Point) bearing N. 40° E., distance, $13\frac{1}{2}$ miles; depth, 120 fathoms; bottom, rough.

Fam. COTTIDÆ.

Cottunculus macrocephalus, n.sp.

(Plate XXIV.)

D. IV 11. A. 11? V. 3. P. 20.

Length of head one-half the length of the body. Depth of body $3\frac{1}{4}$ in length; diameter of eye $3\frac{3}{8}$ in head, or one-half depth of body. Snout nearly equal to diameter of eye.

Head and body covered by smooth loose scaleless skin. No bony tubercles on the head apparent. The posterior extremity of the maxillary is broad, $3\frac{1}{2}$ in diameter of eye, and falls in the vertical just in front of the centre of the eye.

The dorsal fin commences on a line between the posterior margins of the opercula. The anterior spines are short, and scarcely penetrate the skin. The soft rays extend backwards to near the tail. They fall nearly within the same verticals as the anal fin. The ventrals with 3 rays scarcely reach the vent, which is a little behind the vertical from the posterior edge of the operculum. The distance of ventral from end of snout about $\frac{1}{3}$ length of body.

Colour: Light brown dorsally, colourless ventrally.

Locality: Lion's Head, bearing S.E. $\frac{1}{4}$ S., distant 50 miles; depth, 230 fathoms; bottom, green mud; and South Head, bearing E. by S., $\frac{1}{2}$ S., distant 25 miles; depth, 190 fathoms; bottom, green sand and black specks.

Fam. PLEURONECTIDÆ.

Pseudorhombus natalensis. n.sp.

(Plate XXV.)

D. 67. A. 52. V. 6. L. 1. 62.

Head $3\frac{1}{4}$ times, depth of body a little over two times in length of body, without caudal. Diameter of eye $\frac{1}{3}$ length of head. Eyes on left side, the lower slightly in advance of the upper, close together, divided only by a ridge. The distance of lower from the end of the snout is $1\frac{1}{2}$ in the diameter of the eye. The lower jaw projects slightly beyond upper. The posterior end of the maxillary falls in the vertical between the anterior margin and the centre of the eye. Teeth: about 20 in lower jaw, a few more in upper, slightly more developed on blind side.

The dorsal fin commences in front of the upper eye, just behind a small indentation on the snout. The first ray is partially free, being attached to an inter-radial membrane for about $\frac{1}{3}$ of its length, the second to the fifth approach gradually the form of the remaining rays, viz., with tips free only. All the rays are simple but the last two, which are small and bifurcate. The longest is in the posterior third, and is $2\frac{2}{3}$ in length of head. The anal has the last three rays branched. Left pectoral is $1\frac{2}{3}$ in length of head, the right pectoral a little more than one-half the left. The pre-anal spine is very slight. Caudal is wedge-shaped, with upper and lower border of posterior margin slightly concave.

Scales: Ctenoid on the left, cycloid on the right side. Lateral line with strong anterior curve for about $\frac{1}{4}$ of its length, the height of the curve being a little more than $\frac{1}{2}$ its length; the nuchal branch ends about $\frac{2}{3}$ of the way towards the 8th ray of the dorsal fin; a branch starting from the same origin, proceeds to the interorbital region, giving off on its way another branch towards the pre-operculum.

Colour: Body covered with dark brown ring-shaped spots of fairly constant arrangement. Heads and fins with smaller spots.

Length of the largest specimen (including caudal), 132 mm.

Locality: Cape Natal bearing W. by N., distant $6\frac{1}{2}$ miles; depth, 54 fathoms; bottom, fine sand.

***Pseudorhombus*.**

The apparent generic characters of this fish may be described as follows:—Eyes partly on left side, the upper occupying a crescentic gap between the dorsal fin and the head, and nearly in the vertical middle line of the head; mouth wide, the length

of the maxillary more than $\frac{1}{3}$ that of the head; teeth in a single series in both jaws, those in front slightly larger; interorbital space a mere ridge; dorsal commencing on a prominence which projects forward over the upper eye.

This definition approaches so nearly that of the genus *Pseudorhombus* in some respects (teeth, length of maxillary, etc.), that until more specimens are procured, its validity as a separate genus, and not merely an abnormality, must be received with some doubt. The peculiar feature which distinguishes it from *Pseudorhombus* is the near approach to the original bilateral symmetry of the head, and such variation, though very striking, is perhaps to be expected in a character of so recent an origin philogenetically. It apparently, however, does not belong to either of the three species of *Pseudorhombus* already recorded from this region (*P. russelli* from the Umbilo River, Port Natal, recorded by Günther, *vide* Catalogue, Vol. IV., p. 424; and the new species described above). It differs from these, and all the Indian species recorded by Day, in having the scales ctenoid on the blind side and it apparently belongs to an undescribed species.

***Pseudorhombus andersoni*, n.sp.**

(Plate XXVI.)

D. 74. A. 54. L. 1. 85.

Depth $\frac{1}{2}$, head $3\frac{5}{8}$ in length (excluding caudal). Eyes close together separated only by a ridge in diameter a little more than $\frac{1}{3}$ the length of the head, and equal to the distance between the lower and the end of the snout. The maxillary reaches to below the hind third of the eye. Teeth: about 12 in the lower jaw on the left side, 8 on the right. The dorsal fin commences at the tip of the projection which is about $1\frac{1}{2}$ times in the diameter of the eye. The pectorals are about equal, and one half the length of the head. The caudal was somewhat damaged, but appeared to have been wedge shaped, the middle ray (32 mm.) being apparently the longest.

The scales are ctenoid on both sides; the anterior curve of the lateral line is well marked, its depth being about a third of its length. The dorsal branch of the lateral line goes to the 9th ray of the dorsal. Scales occur on the rays of the dorsal and anal. Any colour that may have been present has been entirely removed by the spirit in which the specimen had been preserved for a long time.

Total length, including caudal, 176 mm.

Locality: The single specimen was found in Durban Harbour by Mr. A. Anderson to whom we are indebted for this and other valuable specimens.

Platophrys dimorphus. n.sp.

(Plate XXVII.)

D. 87. A. 72. V. 6. L. 1. 50.

Depth of body $1\frac{1}{5}$ in length without caudal; length of head $4\frac{1}{8}$; longitudinal diameter of eye about $3\frac{1}{2}$ times in head, $1\frac{1}{2}$ in interorbital space (in the male, less than 1 in the female) and less than the distance of the lower from the end of snout. The posterior margin of the lower eye is near the vertical from the anterior margin of the upper. Lower jaw projects beyond upper; the maxillary scarcely reaches to the anterior border of the lower eye. In the male there is a strong spine in front of the lower eye projecting beyond the profile of the snout and a few tubercles on the (morphologically) upper margin of the orbit of either eye. These are absent in the female. A further sexual distinction is the presence of cutaneous flaps on the posterior margin of the eye in the male only. Teeth: a single row of fine setose teeth on the upper and under jaws.

Rays in anterior half of dorsal the longest, about $1\frac{3}{5}$ in head. The first two or three anterior and posterior rays are to the right of the median line. Left pectoral, excluding prolonged ray, a little less than the length of the head; with prolonged ray, which is usually though not invariably present in the male, it is $1\frac{3}{5}$ in the length of head. The right pectoral is smaller than the left about $1\frac{3}{4}$ in the length of the latter. The right ventral is in the middle line in advance of the left which is entirely on the side. The posterior extremity of the left reaches beyond that of the right. The left is coloured, the right being uncoloured.

Scales: Ctenoid on the left side, cycloid on the right, the lateral line has anteriorly a strong curve whose depth is about half its length.

Colour: Male, dark grey with minute black dots on anterior border of region between the eye and on ocular flaps, female of the same colour with the addition of dark spots or blotches often arranged in rows of 3 or 4 along the middle of the body and on either side above and below it.

Locality: $2\frac{1}{2}$ miles off Umhlanga River mouth (Natal); depth, 22-26 fathoms; bottom, fine sand.

Solea turbynei, n.sp.

(Plate XXVIII.)

D. 65. A. 52. L. 1. 94. Vert. 8 + 25.

Depth slightly over $2\frac{1}{2}$, head 4 in length of body (without caudal). Diameter of eye $5\frac{1}{2}$ in head. Upper in advance of lower, by about a half diameter. Interorbital space $\frac{1}{2}$ the

diameter of the eye. Mouth extends nearly to below centre of lower eye. Lips not as a rule fringed—of 10 samples, one had one papilla on the upper lip, and another had a few on both. Papillæ on left side of head, close up to dilated left nostril, which is not fringed. The margin of the operculum has also papillæ, and there are a few at the base of the pectoral on the inner border of the opercular opening.

Dorsal commences on snout above the level of the upper margin of the upper eye, and extends to near caudal fin. Longest ray 3 times in head. Length of free portion of caudal is contained 3 times in its depth. Right pectoral, which is scaled at the base to about $\frac{2}{3}$ of its length, is contained $2\frac{1}{2}$ times in length of head, left pectoral slightly less.

Scales: Ctenoid on both sides. The lateral line contains about 94 pierced scales, crossed by about 108 rows of scales. The dorsal branch of the lateral line rises abruptly towards the 10th ray, and then bends forward in a sharp curve to run parallel with the dorsal to the snout.

Colour: Light slate colour, with numerous black dots on head, body and vertical fins. There is a black patch on the right pectoral and sometimes on the left.

Locality: Numerous specimens have been found in the work of the Government steamer, under the charge of Captain Turbyne, after whom the specimen is named. They were procured at Mossel Bay (18 fms. fine sand), and other localities:

***Cynoglossus attenuatus*, n.sp.**

(Plate XXIX.)

D. 103. A. 90. C. 9. V. 4. L. 1. 84—86.

Height $4\frac{1}{8}$ in length without caudal, $4\frac{1}{2}$ with caudal. Length of head $1\frac{1}{3}$ in height of body. Height of head $\frac{7}{8}$ of its length. Diameter of eye $\frac{1}{10}$, the length of the head, 4 times in its distance from the snout. The upper in advance of the lower, the lower one situated slightly in front of the middle of the head; interorbital space about $\frac{1}{2}$ of the diameter of the eye. The angle of the mouth is behind the posterior margin of the lower eye, and behind the centre of the head. One nostril between the eyes, and another in front of the lower, on a level with its lower margin. One ventral fin scarcely attached to anal.

Scales: Ctenoid on the coloured, cycloid on the blind side. Lateral lines, two on the coloured side separated by 12 rows of scales, two on the blind side.

Colour: Uniform brown.

Locality: Tugela River mouth bearing N. by W., distant $4\frac{1}{2}$ miles; depth, 24 fathoms; bottom, mud.

Cynoglossus brachycephalus, n.sp.

(Plate XXX.)

D. 107. A. 82. V. 4. C. 9. L. 1. 76. L. tr. 14.

Depth of body 4 to $4\frac{1}{2}$, length of head $5\frac{2}{3}$ in length without caudal. Diameter of eye 6 to $6\frac{1}{2}$ in length of head. Eyes close together, orbits almost touching each other, upper slightly in advance of lower, posterior margin of lower in the middle of the length of the head. Greatest height of head more than its length. Angle of the mouth falls under the centre of the lower eye. Rostral hook in front of the anterior margin of the upper eye. Two nostrils, one on the anterior part of the interocular region, the other, with rather long tube, above the lip before the lower eye.

There is only one ventral fin (the left?). It is slightly attached to the anal.

The scales are ctenoid on both sides. There are two lateral lines on the left side separated by 14 rows of scales; no lateral line on the right side.

Colour: Body light brown with darker markings. The fins are strikingly coloured, being light brown with patches of very dark brown at short intervals. A patch of dark brown occurs on the caudal rays.

Locality: $2\frac{1}{2}$ miles off Umhlanga River mouth (Natal); depth, 22-26 fathoms; bottom, fine sand.

Arnoglossus macrolepis n.sp.

(Plate XXXI.)

D. 72. A. 50. L. 1. 47.

Depth $2\frac{1}{2}$, head a little over $3\frac{1}{2}$ in length (without caudal). Longitudinal diameter of eye $4\frac{2}{3}$ in head. Eyes on left side, the upper slightly in advance of lower. Interocular space a mere ridge. Jaws with a single series of small teeth; lower jaw projecting beyond upper; maxillary extends to a point between centre and posterior of lower eye, and is nearly equal one half the length of the head. An open nostril in front of interorbital ridge with a tubular one anterior and superior to it. Of the corresponding nostrils of the right side the tubular one is on the snout in the middle line in front of the upper eye and the other is on the right side, is large and covered by a flap which is in a line with the dorsal fin. Gill openings are wide; a flap of skin (the continuation of the opercular membrane) is folded over from the left jaw to cover the right.

The dorsal commences on the snout a little to the right of the median line. The rays are divided and gradually increase in length to the third from the end, which is longest and $2\frac{3}{10}$ in

head. The anal is pretty similar to the dorsal, but the first and last rays are longer than the corresponding ones in the dorsal. The left pectoral is a little over $\frac{1}{2}$ the length of the head; the right pectoral slightly less than the left. The caudal is covered with scales to about half its length, which is about $\frac{1}{5}$ of that of the body.

Colour: Light brown with a few black patches on body and on vertical fins. Two black patches on the body at the extremities of dorsal and anal well marked and seemingly constant.

Locality: Tugela River mouth (Natal) bearing North; distant 22 miles; depth, 63-73 fathoms; bottom, mud.

Synaptura melanoptera. n.sp.

(Plate XXXII.)

D. 92. A. 70. L. 1. 128.

Height 3.4, head 4.3 in body without caudal. Eye $5\frac{1}{5}$ in head, 8 times interocular width. Eyes close together, upper in advance of lower by $\frac{1}{2}$ a diameter. Angle of mouth under centre of lower eye. Gill cleft feebly fringed. Left nostril dilated, a space free from papillæ surrounding it, extending to mouth. Dorsal commences in front of centre of upper eye and extends to caudal, with which it is slightly confluent at lower half of last ray. Longest ray in centre 2.3 in head. Right pectoral 4 in head the same length as left pectoral. Ventrals symmetrical equal in length to pectorals. Scales ctenoid on right and left sides. Total length 83 mm.

Colour: All fins, except left pectoral which is colourless, are jet black, the extremity of the right pectoral tipped with white. The right side is light brown with large patches of darker.

Locality: Lat. $33^{\circ} 6' 45''$ S., long. $27^{\circ} 55' 45''$ E.; depth, 43 fathoms; bottom, sand, shells, and mud.

Solea fulvomarginata, n.sp.

(Plate XXXIII.)

D. 78-80. A. 61-65. L. 1. 106-108.

Depth $2\frac{2}{3}$, head $5\frac{1}{5}$ in length of body (without caudal). Longitudinal diameter of eye a little less than $5\frac{1}{5}$ in head, upper in advance of lower by about half a diameter. Vertical diameter about 7 times in head and a little more than interorbital space. Mouth extends to below centre of lower eye.

Dorsal commences on snout at the level of the upper margin of the upper eye and extends to base of caudal. Longest ray $\frac{1}{2}$ the length of the head, the posterior extremities of the dorsal and anal are situated over the last vertebra and their posterior margins are almost vertical. The right pectoral, which is devoid of scales at its base, is $6\frac{1}{3}$ in head, the left pectoral being slightly longer.

Scales: Ctenoid on both sides. The lateral line is straight and difficult to make out.

Colour (in fresh state): Lemon yellow, most marked on the margins of all the fins, except the left pectoral, which is colourless. Cloudy patches of dark colour occur on the body, sometimes extending on to the bases of the vertical fins, and the whole is speckled with dark and white dots. The blind side is strikingly coloured, the dorsal, anal and caudal being of a bright lemon yellow, which at places extends slightly on to the body. The rest of the blind side is colourless, including left pectoral and papillæ of head region. (The yellow colour entirely disappears from the fish after being in alcohol a short time.)

Locality: Occasionally procured by seine net in False Bay.

Synaptura ciliata, n.sp.

(Plate XXXIV.)

D. 76. A. 63. V. 3. L. 1. 100.

Height 2.7, head 5 in body (without caudal). Eye 8.5 in head, a little less than double interocular width, upper in advance of lower; angle of mouth below centre of lower eye. The lips and border of gill clefts are fringed, and the whole of the head and body of coloured side is covered with hair-like processes. A fringed dermal flap at nostril of blind side.

The dorsal commences on the snout at the level of the centre of the upper eye. The rays gradually increase in size to the last, which is confluent with caudal. The anterior are fringed on the left side. The longest ray 2.3 in head. The right pectoral is 4.25 in head. The left pectoral is slightly longer and broader. The ventrals are very small, the right $2\frac{2}{3}$ in pectoral, and a little less developed than left ventral.

Colour: Body dark brown, with darker specks, head almost black, vertical fins light brown, with dark spots, margin white. Right pectoral black, with brown tips. Pectoral and ventral of left side colourless, as is whole of left side.

Near *S. marginata*, Blgr., but has shorter paired fins, origin of dorsal further forward, body covered with short filaments.

Locality: Inner Harbour, Durban (Natal).

Fam. SCOPELIDÆ.

Chlorophthalmus punctatus, n.sp.

(Plate XXXV.)

Br. 8. D. 12. A. 9. P. 15. V. 9. L. 1. 56. L. tr. $\frac{5}{10}$.

Length of head a little less than 4 times in that of body. Diameter of eye 2.6 times in length of head. Interorbital space a little more than $\frac{1}{2}$ the diameter of the eye.

The first rays of the dorsal fin are in front of the ventrals, and the distance between the adipose fin and the dorsal about equals the distance between the dorsal and anterior margin of the eye. The pectorals are also equal to this distance, and they do not reach the tip of the ventrals, which are nearly $\frac{8}{9}$ the length of the head.

Very fine teeth, or asperities, can be distinguished on the roof of the mouth. The margin of the scales have denticulations (2—3).

Colour (in spirit): Dark brown patches at nape of neck, anterior and posterior of dorsal fin, between this and adipose fin. Patches of the same colour occur on the side of the body. The head, body, and fins are covered with minute black spots, which cause the rows of scales to stand out very markedly, especially those in a direction descending obliquely backwards.

Locality: The three specimens procured were obtained by shrimp trawl, Lion's Head bearing N. 63° E., distant 34 miles; depth, 154 fathoms; bottom, black specks.

Scopelus argenteus, n.sp.

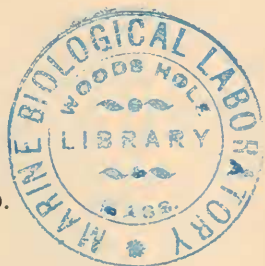
(Plate XXXVI.)

D. 14. A. 15. L. 1. 38.

The depth of the body is contained 5 times in its length; the length of the head $3\frac{1}{5}$ times. The diameter of the eye is contained 4 times in the length of the head. Snout $1\frac{1}{2}$ the diameter of the eye. Mouth wide, premaxillary reaching nearly to the angle of the pre-operculum, the space between the posterior margin of the eye and the border of the pre-operculum is a little longer than half the diameter of the eye.

The origin of the dorsal fin is nearly midway between the tip of the snout and the posterior extremity of the adipose fin; it is slightly in front of the point of insertion of the ventral fin. The pectoral fin reaches to the insertion of the ventrals, not beyond.

Colour: Dark brown along the dorsal region of the body,

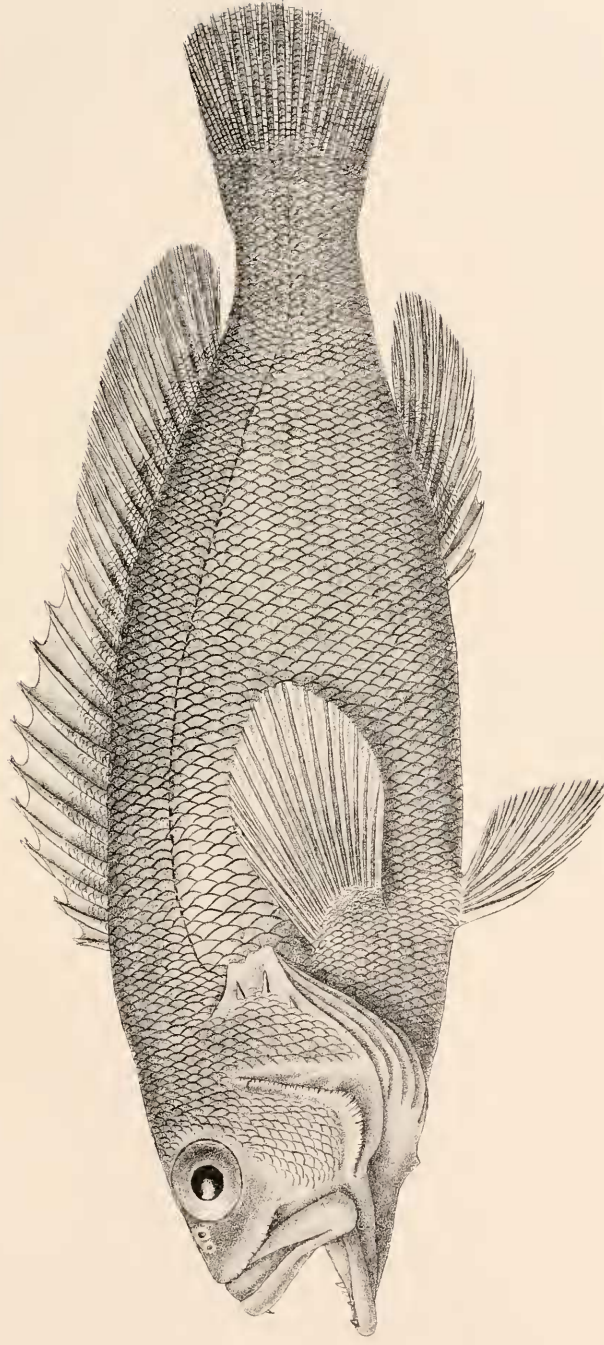


reaching about half way to the lateral line, and a less marked tinge of brown along the ventral region. In the middle of the body this colouring matter is nearly absent, and the scales have a bright silvery appearance.

The luminous spots are arranged as follows: Caudal 5 (in this respect differing from all other species of *Scopelus* and affording a ready diagnostic character); postero-lateral 1; anal 8 + 5 extending from origin of anal to midway between its posterior end and beginning of caudal fin, medio-lateral ("supra-anal" of Lütken) 3 in a line with the last of the ventrals and forming an oblique series; antero-lateral, 1 between ventral fin and lateral line; abdominal 5 in a curved line; thoracic 5, 3 in a line with mandibular and lower opercular, and 2 higher up in front of insertion of ventral; pectoral 3, 2 immediately below and 1 above insertion of pectoral fin; opercular 2, the lower situated behind the angle of the mouth in a line with mandibular; mandibular 3, antorbital 1, somewhat indistinct, on front margin of the eye a little below nostril.

Besides these luminous organs, there is a patch of luminous scales above and below the caudal region, and the snout is covered by soft glandular tissue, probably luminous in function.

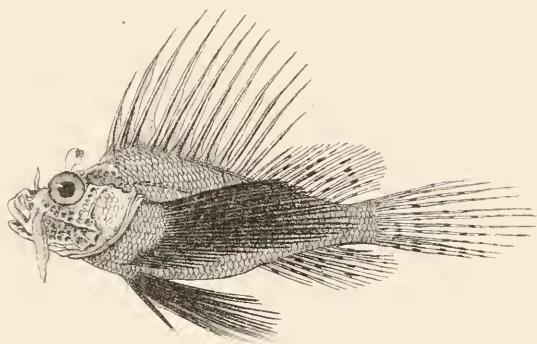
Locality: Constable Hill (near Saldanha Bay) bearing E. $\frac{3}{4}$ S., distant $19\frac{1}{2}$ miles, and Green Point bearing S.E. by E. $\frac{1}{2}$ E., distant 36 miles; also South Head bearing E. by S. $\frac{1}{2}$ S., distant 25 miles.



F. Newdigate del.

SERRANUS KNYSNAEUSIS n. sp.

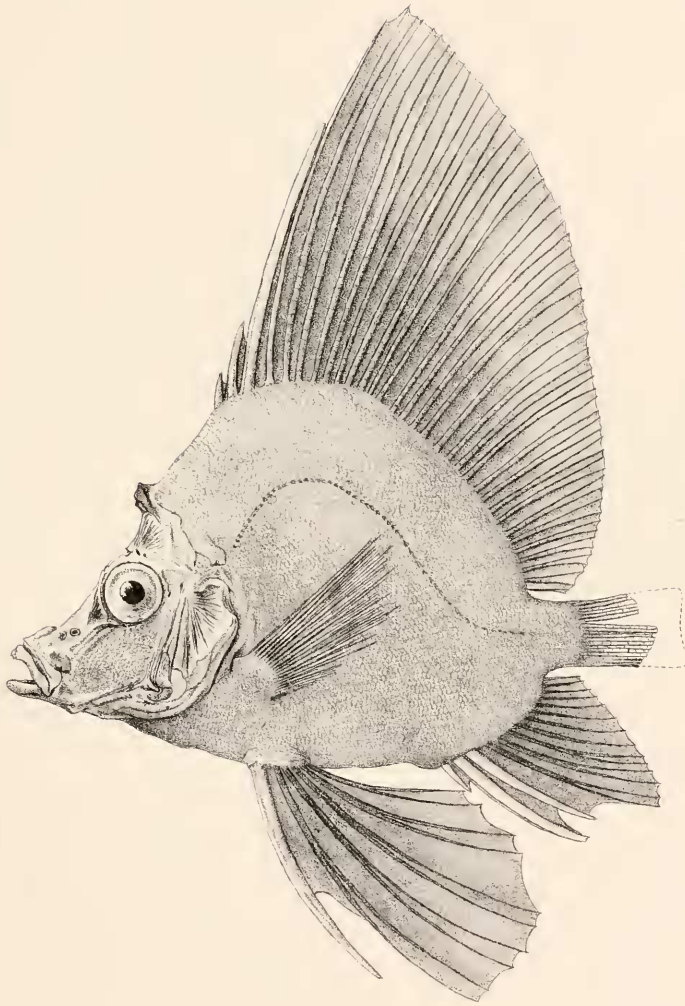
J. Green lith.



P. Mc Manus del

Green lith

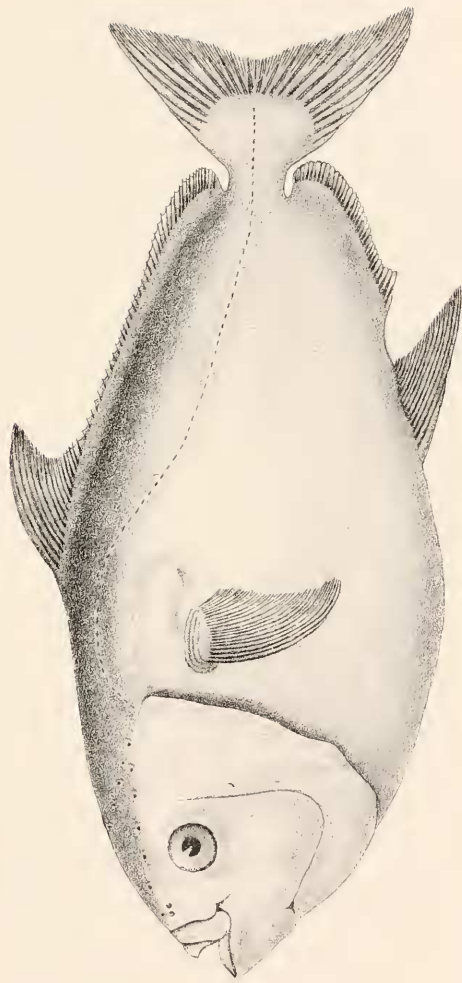
PTEROIS NIGRIPINNIS, n.sp



P. McManus del

J. Green lith

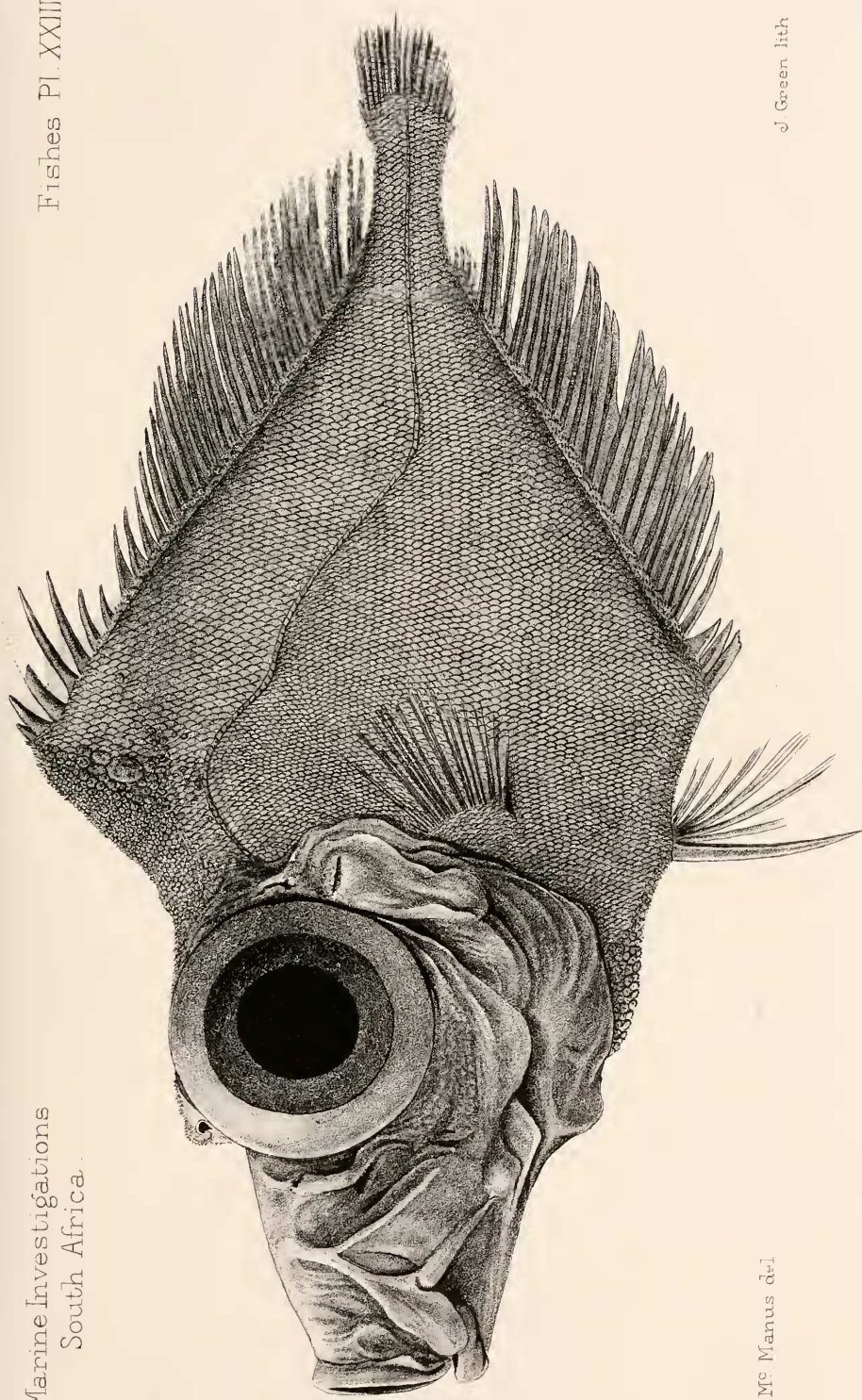
HISTIOPTERUS SPINIFER, n. sp



F. N. Mouton & de

LAMPRIS IMMACULATA n. sp.

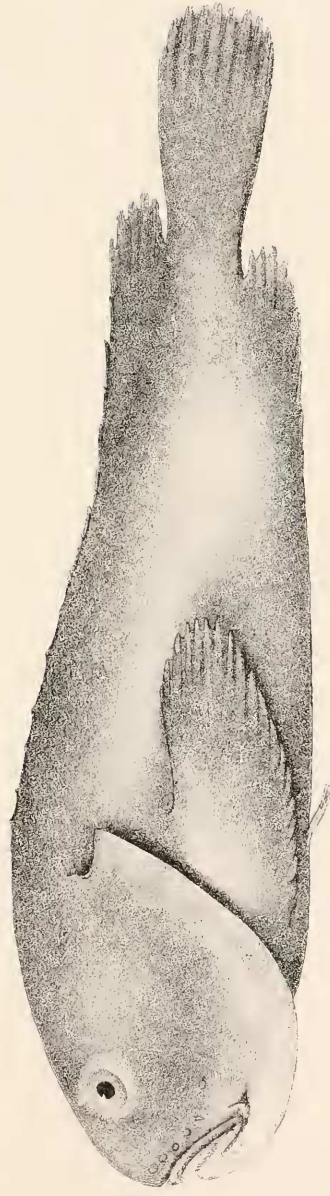
J. Green lith.



P. Mc Manus del.

J. Green lith.

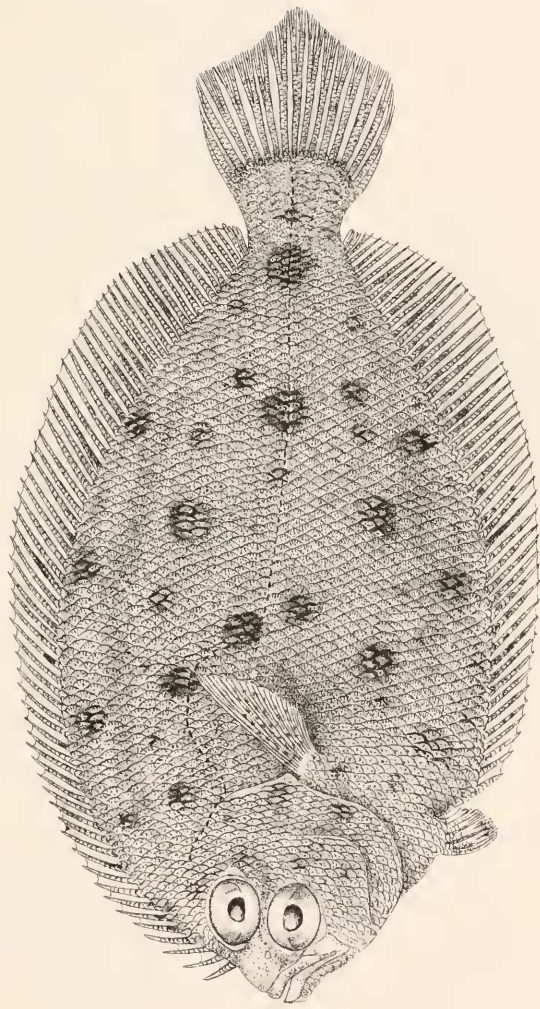
CYTOSOMA BOOPS, n.g, et sp.



P. M^c Manus del.

♂. Green. lith.

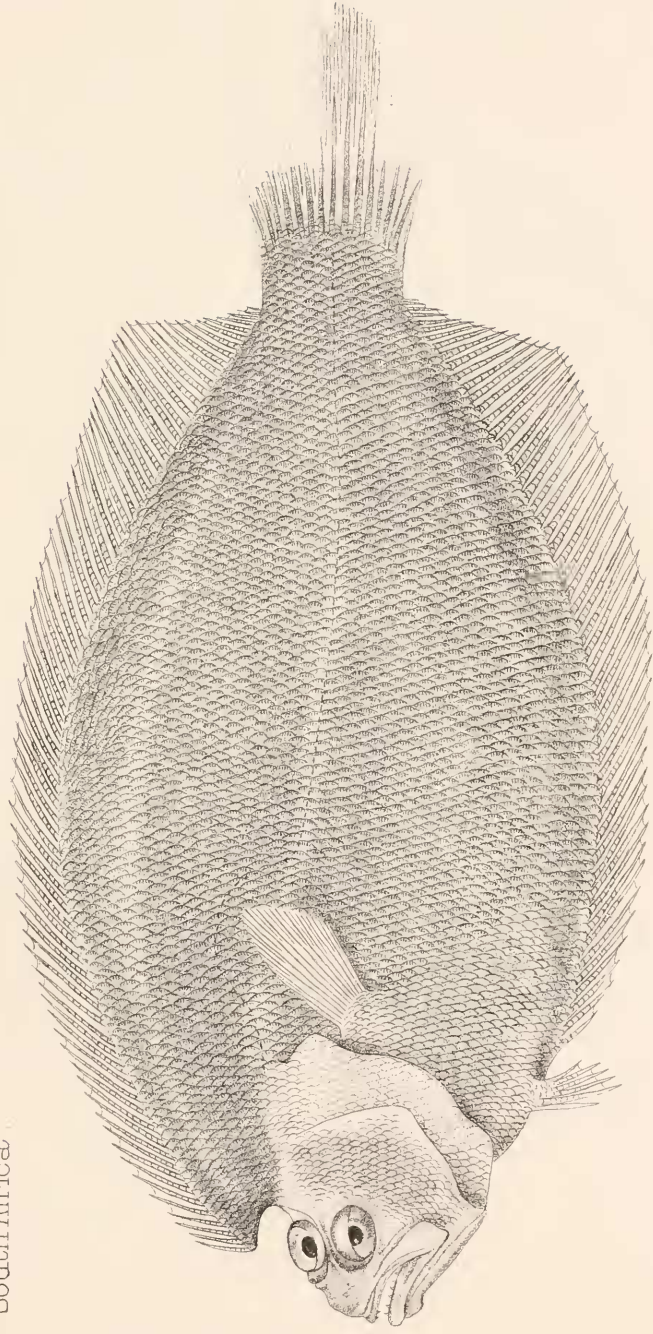
COTTUNCULUS MACROCEPHALUS n. sp.



F. Newdgate del.

PSEUDORHOMBUS NATALENSIS. n. sp.

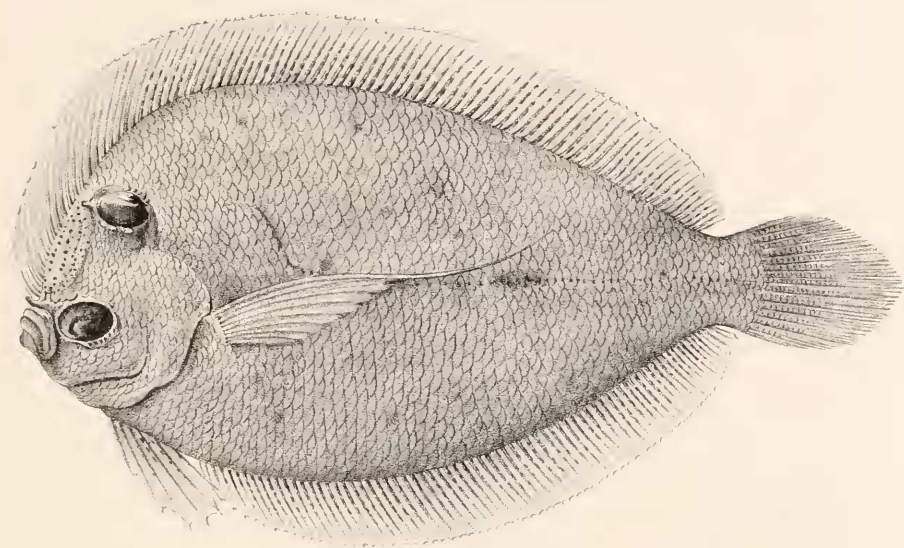
J. Green lith.



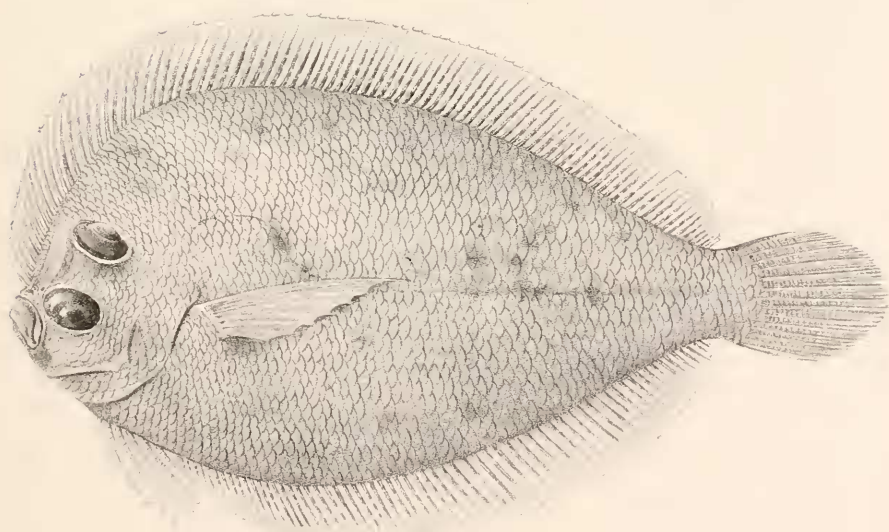
F Newdigate del

J. Green lith

PSEUDORHOMBUS ANDERSONI, n.sp.



a

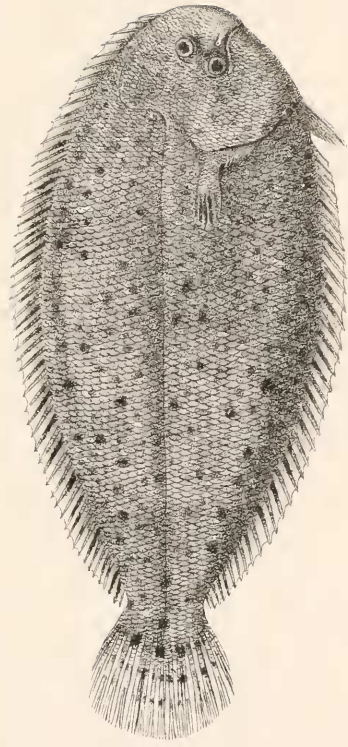


b

P McManus del.

J Green lith.

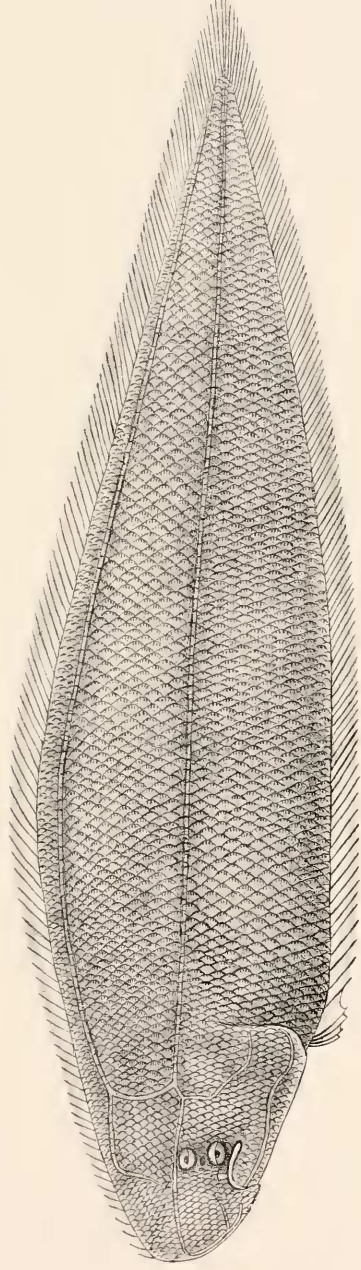
PLATOPHRYS DIMORPHUS. n. sp.
(a male b. female)



P Mc Manus del

SOLEA TURBYNEI, n.sp.

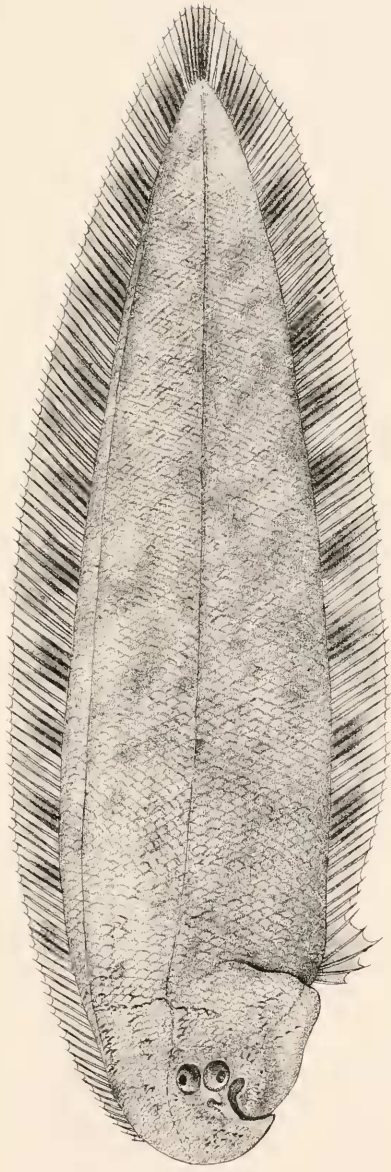
J. Green lith

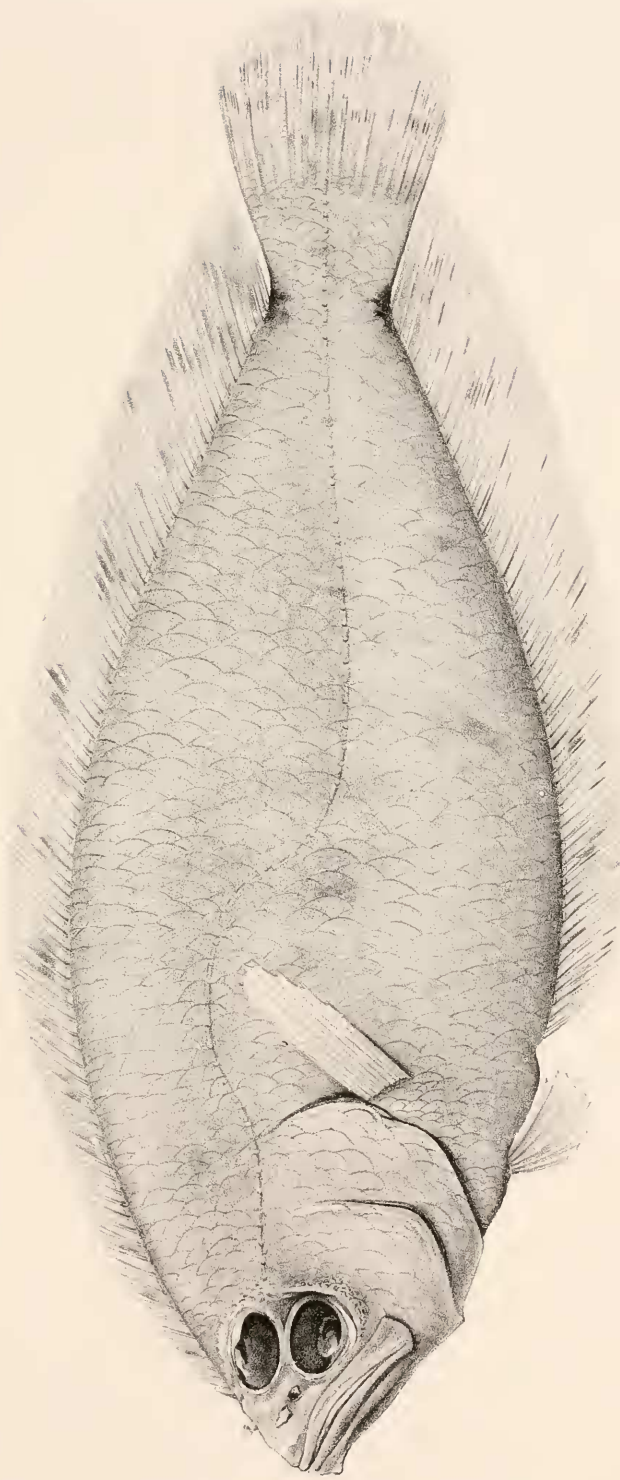


F. Newdigate del

CYNOGLOSSUS ATTENUATUS n. sp

J. Green lith.

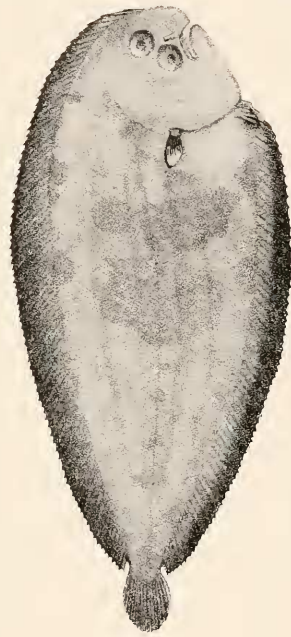


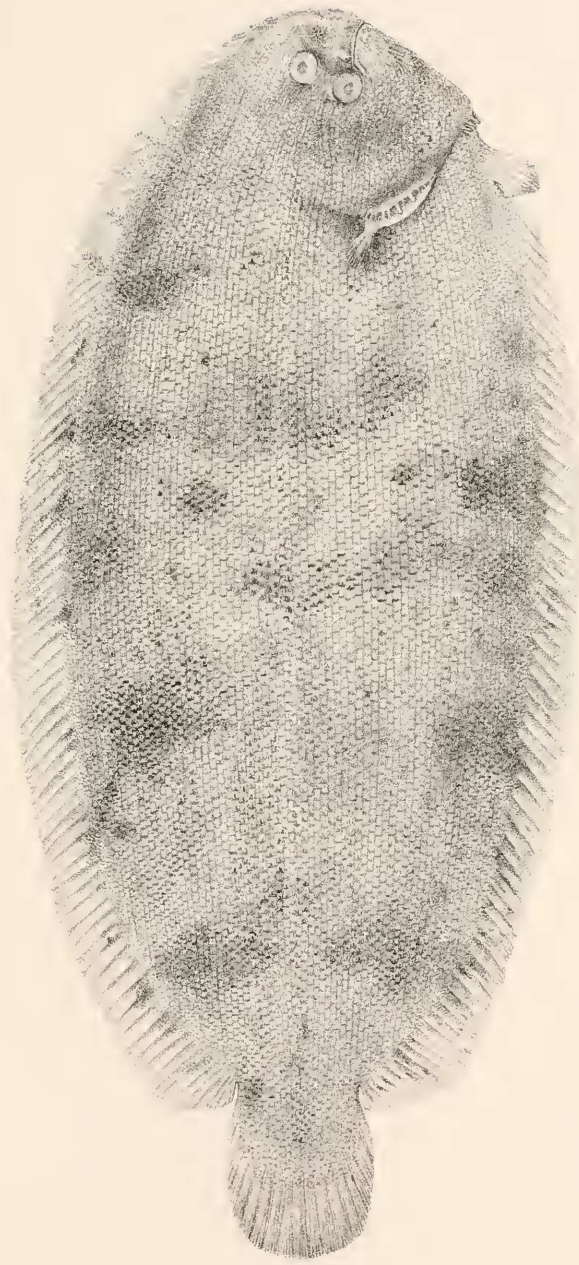


P Mc Manus del

ARNOGLOSSUS MACROLEPIS n.sp

Ed Green lith.





F Newdigate del

SOLEO FULVO-MARGINATA n.sp.

J. Green lith.

a.



P. Mc Manus del

J. Green lith.

(a) *SYNAPTURA CILIATA*. n. sp
(b) *scales enlarged*.

